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PREVALENCE OF THE USE OF ILLICIT PSYCHOACTIVE DRUGS AND CAFFEINE AMONG ADOLESCENT STUDENTS IN AN EASTERN NIGERIAN TOWN

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ABSTRACT

Background: The use of psychoactive drugs by adolescents is increasing in some countries. The dangers in the use of illicit drugs by youths have to do with the several deleterious effects of the use of such drugs and the observation that most people who commence illicit drug use, particularly cocaine, in their teens are more likely to develop drug dependence in adulthood. Though coffee exerts some psychoactive effects because of its caffeine content, we included it in the study. It is not an illicit drug. To the best of our knowledge, there are no current statistics in peer reviewed journals on the extent of the use of cocaine, heroin, cannabis, and amphetamine by youths in Enugu Nigeria. We therefore considered it an imperative to conduct a study to investigate the prevalence of the use of these drugs among adolescents in the town. **Methods:** The research project was a cross-sectional research instrument. A pre-validated questionnaire was used as the research tool. The study was carried out in Enugu a capital city in south eastern Nigeria. The schools visited were chosen by systematic stratified random sampling to include schools owned by the government as well as those owned by private entrepreneurs. Data was analyzed using the IBM SPSS version 20. Statistical

significance of any differences was determined at $p \leq 0.05$. **Results:** The study showed that the number of students who had ever taken any of the illicit drugs was quite low ((1.25 to 2.9%) whereas a large percentage (54.3%) of the students had consumed coffee at least once in their life. **Conclusion:** This study shows that over 50% of the respondents had consumed coffee at least once, but the prevalence of use of illicit drugs (cocaine, cannabis, heroin and amphetamine) among them was low. Larger studies will be needed to confirm this observation.

KEYWORDS: Adolescent, marijuana, cocaine, heroin, amphetamine, coffee, Nigeria.

INTRODUCTION

The use of illicit drugs by adolescents is reportedly rising in some countries and localities and has become a global public health problem.[1-3] The drugs used illicitly include cocaine, marijuana, amphetamine and heroin. These drugs produce a number of serious adverse effects including paranoia, impairment of psychomotor function and, at high doses, cardiovascular anomalies, seizures and death. Such drugs produce transient euphoria and hallucinations in the individual user.[4-5] They can produce delusional thoughts, bizarre physical motions, and lead to risky behaviors and diminution of the pursuit of normal life goals.[6] Those who use these drugs are also liable to experience distortions of mood and impairment of judgment. Road crashes and suicidal ideation are among the possible outcomes of the use of such drugs.[7-10]

Marijuana, for instance, is one of the most frequently used psychoactive drugs globally.[3] Its use by youths is increasing in Nigeria and in several other countries.[11] It has several other names including Indian hemp, igbo, pot, ganja, and cannabis. Legalization of its use in various countries has become controversial. Proponents of the medical use of tetra-hydro-cannabinoid advocate legalization for medicinal purposes, while opponents of legalization emphasize the deleterious effects of tetra-hydro-cannabinol and to the gateway status being accorded to it; to the effect that the early use of cannabis is an important risk factor for initiating the use of cocaine and other substances.[7,12-14]

It has also been observed by researchers that the use of amphetamine type stimulants (ATS), cocaine, and heroin is on the increase in some Western nations with much potential adverse health and societal consequences.[10] Although amphetamine has been well known for its clinical benefit in the treatment of Attention deficit/hyperactivity disorder (ADHD), weight

loss, and narcolepsy, its use is restricted legally because of its potential as a drug of abuse having several potential deleterious effects.[10,15,16] Heroin, unlike amphetamine, has no well established clinical use. In general, curbing the rising prevalence of the recreational use of these drugs is considered an imperative for all stakeholders.

Caffeine on the other hand is the main active ingredient in coffee. Its use is neither illegal nor restricted. It is a central nervous system stimulant derived from a number of natural sources and foods such as coffee, kola nuts, tea, chocolate, and some carbonated (soft) drinks. Coffee is one of the most widely consumed beverages in the world. Moderate amounts of coffee taken by healthy adults are considered safe. However toxic doses of caffeine could lead to severe insomnia, mental fatigue, seizures and death.

Statistics on the prevalence of drug use of these psychoactive drugs among teenage students in Enugu are scarce, if not nonexistent. We therefore considered it vital to carry out a study to address this deficiency in our knowledge base.

We report in this paper our research aimed at determining the prevalence of the use of marijuana, cocaine, heroin, and amphetamine long with caffeine consumed in the form of coffee drinks among secondary school students at Enugu Nigeria.

METHODS

We carried out a cross-sectional study from March 2017 to May 2017 involving six secondary schools located in Enugu in Southeastern Nigeria. The schools were chosen by systematic stratified random sampling to include schools owned by the government as well as those owned by private entrepreneurs. All the schools enrolled both boys and girls (co-educational secondary schools) and were located in Enugu metropolis. The instrument of research was a pre-validated self-administered anonymous questionnaire. The questionnaire did not ask for the names of the respondents or any identifying information in order to maintain anonymity. Each respondent completed the questionnaire confidentially without any coercion or inducement. Approval to carry out the survey in each school was obtained from the school authorities but only those students who consented to complete the questions completed the questionnaire. None was compelled to fill the questionnaire. The questionnaires were distributed in each of the schools to all the students in senior secondary school class 2 (equivalent to the 11th grade in the United States of America). Research personnel collected the completed questionnaires soon after they were completed and handed

them over to the principal investigator for safe storage pending data entry and analysis. Data was analyzed using the IBM SPSS version 20 (IBM corporation, New York). Statistical significance of any differences was determined at $p < 0.05$.

RESULTS

We gave out six hundred questionnaires to senior secondary school year 2 (SS2) students in six secondary schools in Enugu metropolis out of which 588 completed questionnaires were returned to us. This report is part of a bigger project that explored the extent of familiarity with and involvement in psychoactive drug use in Enugu.

The ages of the respondents ranged from 11 years to 19 years. With respect to gender distribution, boys were 347 (59.0%) and girls were 231 (39.3%). Ten students (1.7%) did not indicate their gender.

With respect to academic performance in the previous class, the majority of the respondents indicated that they were above average. The schools had both boarders who lived in school dormitories when school was in session as well as day students who came to school from their homes. With respect to location of their residence, 428 students (72.8%), including borders, indicated that they lived within Enugu urban, 46 students (7.8%) lived in rural suburbs, and 22 students (3.7%) came to school from locations outside Enugu metropolis.

Table 1: Percentage distribution of students who had ever seen any of the substances/drugs, disaggregated by gender (n=578).

Drug/ Substances	Frequency (% among gender)		Chi-Square/ Fisher's Exact values	P-Value
	Male (n=347)	Female (n= 231)		
Heroin	49 (14.1)	33 (14.3)	0.00	0.95
Coffee	296 (85.3)	199 (86.1)	0.08	0.77
Marijuana	104 (30.0)	52 (22.5)	3.91	0.04*
Cocaine	49 (14.1)	46 (19.9)	3.38	0.06
Amphetamine	14 (4.0)	3 (1.3)	3.63	0.06

This table shows that whereas over 85% of the students were familiar with coffee, a commonly used and safe beverage, the numbers that have ever seen heroin, marijuana, and cocaine were much lower. The number of students who had ever seen the illicit drugs was higher for male students but the gender difference was statistically significant for only marijuana, $p = 0.04$.

Table 2: Distribution of students who have ever taken any of the substances/drugs (n=588).

Substance	Number and percentage of students that have ever taken
Heroin	7 (1.2%)
Marijuana	17 (2.9%)
Cocaine	10 (1.7%)
Amphetamine	4 (0.7)
Coffee	319 (54.3%)

This table shows that the number of students who had ever taken any of the illicit drugs was quite low ((1.25 to 2.9%) whereas a large percentage (54.3%) of the students had actually consumed coffee.

Table 3: Percentage distribution of students who had ever taken (used) any of the Drugs/ Substances, disaggregated by gender (n=578).

Drug/ Substances	Frequency (% among gender)		Chi-Square/ Fisher's Exact values	P-Value
	Male (n=347)	Female (n= 231)		
Heroin	4 (1.2)	3 (1.3)	0.02	0.87
Coffee	189 (54.5)	124 (53.7)	0.03	0.85
Marijuana	15 (4.3)	1 (0.4)	7.79	0.005*
Cocaine	10 (2.9)	0 (0.0)	6.77	0.009*
Amphetamine	4 (1.2)	0 (0.0)	2.68	0.10

Among the small number of students who had ever taken any of the controlled drugs, the majority were boys. None of the girls had ever used cocaine or amphetamine. Only one had ever used marijuana and three reported that they had used heroin at least once in their life. The gender differences in the use of these drugs were significant for both marijuana and cocaine, as 10 and 15 male students reported use of cocaine and marijuana respectively. On the other hand, the consumption of coffee was common among both genders without a statistically significant gender based difference.

DISCUSSION

In this study, familiarity with and the prevalence of use of marijuana was higher than for cocaine, heroin and amphetamine, but much less than in some other parts of the world.[3] It has been reported that commencement of cocaine use in adolescence tends to lead to development of drug dependence and adults who started using the drug from adolescence will tend to shun early treatment for drug dependence and its related problems.[4,5,12] Interestingly our study does not reveal any serious problem with the use of cocaine and amphetamine as the prevalence of its use was found to be low in our study sample.

Amphetamine (also called speed) and its congeners methamphetamine and 3,4-methylene-dioxymethamphetamine (MDMA) called ice and ecstacy respectively are among the psychoactive drugs illicitly abused by both youths and adults globally for their stimulant and euphoric effects.[17] This study revealed that amphetamine was almost unknown among the youths in Enugu.[15,18] Heroin was also virtually unknown to our study population and the level of its use was less than the prevalence recorded in Morocco and some other countries.[2]

Coffee though included in this survey is neither a hallucinogen nor an illicit drug. It has many beneficial effects and it is one of the most widely consumed beverages in the world. Its use among our sample population was high with as much as 54.3% of students indicating that they had ever used it. Coffee is considered safe when consumed in moderate quantities by healthy people.

CONCLUSION

This study shows that although over 50% of the adolescent students who participated in the study had consumed coffee at least once in their life, their familiarity with illicit drugs is low. The prevalence of use of cocaine, cannabis, heroin and amphetamine among these students seems to be minimal. Larger studies will be needed to confirm this observation.

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